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AMERICAN SOCIETY

FOR

TESTING MATERIALS

ORGANIZED IN 1898
INCORPORATED IN 1902

INDEX TO PROCEEDINGS

VOLUMES XIII-XX

(1913-1920)

178874
19.8.23.

PUBLISHED BY
AMERICAN SOCIETY FOR TESTING MATERIALS
1315 Spruce Street, Philadelphia, Pa.
1923

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Printed in Philadelphia, U. S. A.

PREFACE.

The Index covers the contents of Volumes XIII to XX, inclusive (1913–1920), of the Proceedings of the American Society for Testing Materials completely, exclusive only of routine business. In 1913 the Proceedings were published in one volume. In the remaining years covered by the Index, the Proceedings appeared in two volumes, Part I containing committee reports, discussions and, since 1916, tentative standards, and Part II technical papers and discussions. The contents of the individual volumes appear in the Table of Contents of Proceedings that follows the Index.

Committee reports have been indexed in two ways: First, each committee report is indexed under the subject designated in its title, at which place a synopsis of the successive reports of the committee is given; second, the subjects covered in the committee reports, including all specifications, methods, definitions, etc., are indexed under the appropriate key words. Titles of papers are distinguished by quotation marks.

The list of key words in the Subject Index is given separately at the beginning of the volume. This list, it is believed, will prove a convenience in determining the key word or key words under which the subject sought is likely to appear, before turning to the Subject Index itself. The key words are not restricted to the words in the titles of reports and papers, but the aim has been to further facilitate the search for information on important subjects by directing attention through the key words to pertinent matter in the body of the text of reports, papers and discussions. The cross references between key words serve to refer the reader to other places in the Index where information on the subject first consulted might also be found, or to topics that are related to the subject first consulted.

In the Author Index, references to committee reports appear under the names of the chairmen, vice-chairmen and secretaries of the committees concerned.

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"The Sampling of Deposits of Road Stone and Gravel in the Field." L. Reinecke and K. A. Clark. XVIII, Part II, 393 (1918). Discussion, 414.

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"The So-Called Asphalt Content of Road Oils." B. A. Anderton and D. G. Taylor. XX, Part II, 314 (1920). Discussion, 320.

"The Standard Deval Abrasion Test for Rock." F. H. Jackson. XX, Part II, 278 (1920). Discussion, 291.

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Reports of the Committee on Road Materials:

Submitting proposed standard definitions of terms for road materials; Minority Report. XIII, 448 (1913). Discussion, 454.

Submitting proposed: test for apparent specific gravity of rock; test for absorption of water per cubic foot of rock; method of mechanical analysis of broken stone or broken slag; method of mechanical analysis of mixtures of sand or other fine material with broken stone or broken slag; standard definitions of terms applicable to materials relating to roads and pavements. XIV, Part I, 374 (1914).

Recommending for adoption definitions of terms applicable to materials relating to roads and pavements. Transmitting reports of: Special Joint Committee Appointed to Consider Definitions of Road Materials; Special Joint Committee Appointed to Consider Provisional Tests of Road Materials; Sub-committees on: Softening Point; Penetration; Ductility Tests. XV, Part I, 325 (1915). Discussion, 356.

Recommending for adoption as standard tests for: penetration of bituminous materials; loss on heating of oil and asphaltic compounds; method for making a mechanical analysis of broken stone or broken slag, except for aggregates used in cement concrete; method for making a mechanical analysis of sand or other fine highway material, except for aggregates used in cement concrete; method for making a mechanical analysis of mixtures of sand or other fine material with broken stone or broken slag, except for aggregates used in cement concrete; method for distillation of bituminous materials suitable for road treatment. Submitting as tentative tests for: determination of apparent specific gravity of homogeneous coarse aggregates; form of specifications for certain commercial grades of broken stone; method for determination of softening point of bituminous materials other than tar products. Submitting revision in the Standard Definitions of Terms Applicable to Materials Relating to Roads and Pavements. Submitting report of sub-committee on Penetration of Bituminous Materials. XVI, Part I, 300 (1916). Discussion, 316.

Submitting revisions of: Standard Method for Distillation of Bituminous Materials Suitable for Road Treatment; Definitions of Terms Relating to Materials for Roads and Pavements. Submitting as tentative tests for: toughness of rock; determination of apparent specific gravity of coarse aggregates. Transmitting reports on British Standard Nomenclature of Bituminous Materials. XVII, Part I, 470 (1917).

Recommending for adoption as standard tests for determination of apparent specific gravity of coarse aggregates; form of specifications for certain commercial grades of broken stone; definitions of terms relating to materials for roads and pavements; tests for toughness of rock. Submitting revisions of: Standard Method for Distillation of Bituminous Materials Suitable for Road Treatment; Method for Making a Mechanical Analysis of Sand or Other Fine Highway Material Except for Fine Aggregates Used in Cement-Concrete. Submitting as tentative tests for determination of apparent specific gravity of sand, stone and slag screenings and other fine non-bituminous highway materials. XVIII, Part I, 326 (1918).

Recommending for adoption as standard tests for determination of apparent specific gravity of sand, stone and slag screenings and other fine non-bituminous materials; method for determination of softening point of bituminous materials other than tar products. Submitting as tentative: test for loss on heating of oil and asphaltic compounds; method

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Reports of the Committee on Road Materials (*Continued*):

for determination of softening point of tar products (cube-in-water method); specifications for: materials for cement grout filler for brick and stone block pavement; materials for cement mortar bed for brick, stone block and wood block pavement; block for granite block pavement. XIX, Part I, 392 (1919).

Submitting as tentative: tests for specific gravity of road oils, road tars, asphalt cements and soft tar pitches; specific gravity of asphalts and tar pitches sufficiently solid to be handled in fragments; quantity of clay and silt in gravel for highway construction; quantity of clay in sand-clay, topsoil, and semi-gravel for highway construction; quantity of clay and silt in sand for highway construction; methods for sampling stone, slag, gravel, sand and stone block for use as highway materials, including some material survey methods; specifications for: workability of concrete for concrete pavements; commercial sizes of broken stone and broken slag for highway construction; commercial sizes of sand and gravel for highway construction; broken slag for waterbound base; shovel-run or crusher-run broken slag for waterbound base; natural or artificial sand-clay mixtures for highway surfacing. Recommending for adoption as standard tests for loss on heating of oil and asphaltic compounds; method for determination of softening point of tar products; specifications for: materials for cement grout filler for brick and stone block pavements; materials for cement mortar bed for brick, stone block and wood block pavements. Transmitting report of Collaborative Tests of Sectional Committee on Penetration Relative to Modification of the Standard Needle. Transmitting paper on "Proportions and Quantities of Materials for Concrete for Highway Construction" by D. A. Abrams. XX, Part I, 428 (1920). Discussion, 441.

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"An Autographic Friction Testing Machine for Testing Mechanical Rubber Goods." J. M. Bierer. XIV, Part II, 627 (1914). Discussion, 634.

"Construction of Steam Hose." J. M. Bierer. XX, Part II, 355 (1920). Discussion, 359.

Proposed Tentative Specifications for Insulated Wire and Cable: 30-per-cent Hevea Rubber. XV, Part I, 411 (1915).

Reports of the Committee on Rubber Products:

Progress report on organization of the committee. XIII, 466 (1913).

Progress report. XIV, Part I, 387 (1914). Discussion, 388.

Recommending for adoption specifications for: $2\frac{5}{8}$-in. cotton rubber-lined fire hose for private department use; methods for testing cotton rubber-lined hose. Submitting as tentative specifications for insulated wire and cable: 30-per-cent Hevea rubber. XV, Part I, 408 (1915). Discussion, 434.

Submitting as tentative specifications for $2\frac{1}{2}$, 3 and $3\frac{1}{2}$-in. double-jacketed cotton rubber-lined fire hose for public fire department use. XVI, Part I, 357 (1916).

Submitting as tentative specifications for air-line hose for pneumatic tools. XVII, Part I, 494 (1917).

Recommending for adoption as standard specifications for: $2\frac{1}{2}$, 3, and $3\frac{1}{2}$-in. double-jacketed cotton rubber-lined fire hose for public fire department use; air-line hose for pneumatic tools. Submitting as tentative specifications for: rubber belting for power transmission; steam hose. XVIII, Part I, 354 (1918). Addendum, 356.

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Reports of the Committee on Rubber Products (*Continued*):

Submitting as tentative specifications for leader hose for use with pneumatic tools. Submitting revisions of the: Tentative Specifications for Rubber Belting for Power Transmission; Standard Specifications for 2⅝-in. Cotton Rubber-Lined Fire Hose for Private Department Use; for 2½, 3 and 3½-in. Double-Jacketed Cotton Rubber-Lined Fire Hose for Public Fire Department Use. XIX, Part I, 396 (1919).

Submitting as tentative specifications for adhesive insulating tape. Recommending for adoption as standard specifications for: leader hose for use with pneumatic tools; steam hose; rubber belting for power transmission. XX, Part I, 453 (1920).

"Rubber Belting and Methods of Testing." W. E. Campbell. XIV, Part II, 617 (1914). Discussion, 624.

"Steam Hose." H. J. Force. XIX, Part II, 687 (1919).

Tentative Revisions of Standard Specifications for:

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Proposed Provisional Method for Making a Mechanical Analysis of Mixtures of Sand or Other Fine Material with Broken Stone or Broken Slag. XIV, Part I, 382 (1914).

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Tentative Specifications for:

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Tentative Tests for:

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Quantity of Clay and Silt in Sand for Highway Construction. XX, Part I, 774 (1920).

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"Slag Test for Refractory Brick Used in the Iron and Steel Industry. C. E. Nesbitt, and M. L. Bell. XVII, Part I, 314 (1917).

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Report on specific gravity of paint thinners other than turpentine. XVI, Part I, 290 (1916).

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and automobile springs; silico-manganese-steel bars for automobile and railway springs; chrome-vanadium-steel bars for automobile and railway springs; helical springs for railways; elliptical springs for railways; alloy-steel forgings; quenched-and-tempered alloy-steel axles, shafts and other forgings for locomotives and cars; quenched carbon-steel track bolts; quenched alloy-steel track bolts; automobile carbon and alloy steels. Submitting as tentative specifications for: steel track spikes; steel screw spikes; steel tie plates; carbon-steel bars for railway springs with special silicon requirements; elliptical springs for automobiles; boiler and firebox steel for stationary service. Transmitting reports on: Cooperative Analysis of a Low-Sulfur Tool Steel; Procedure for Standardizing Arsenite Solutions for Manganese Determinations by the A.S.T.M. Standard Method; Transmitting paper on "Investigation of Ladle-Test Steel Ingots" by J. R. Cain and H. S. Rawdon. XVI, Part I, 86 (1916). Addendum, 145.

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Submitting revisions of the Standard Specifications for: Open-Hearth Steel Girder and High Tee Rails; Automobile Carbon and Alloy Steels. Submitting revisions of the Tentative Specifications for Low-Carbon-Steel Track Bolts. Submitting as tentative specifications for steel plates for forge welding. Recommending the removal of the phosphorus and sulfur note in certain steel specifications. Transmitting reports of sub-committees on: Specifications for Plates for Forge Welding; Ladle-Test Ingot Investigation. XIX, Part I, 138 (1919). Addendum, 171.

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"Some Tests of Light Aluminum Casting Alloys: The Effect of Heat Treatment." P. D. Merica and C. P. Karr. XIX, Part II, 297 (1919).

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"A New Colorimeter for White Pigments and Some Results Obtained by Its Use." A. H. Pfund. XX, Part II, 440 (1920). Discussion, 449.

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